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(12) **United States Patent**
Villagran et al.(10) **Patent No.: US 6,730,336 B2**
(45) **Date of Patent: *May 4, 2004**(54) **FORTIFIED BEVERAGES WITH IMPROVED
TEXTURE AND FLAVOR IMPACT AT
LOWER DOSAGE OF SOLIDS**(75) Inventors: **Francisco Valentino Villagran**, Mason,
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Cincinnati, OH (US)(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 289 days.This patent is subject to a terminal dis-
claimer.(21) Appl. No.: **09/911,336**(22) Filed: **Jul. 23, 2001**(65) **Prior Publication Data**

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Pat. No. 6,180,159, which is a continuation-in-part of appli-
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doned.(51) **Int. Cl.⁷** **A23L 1/302**(52) **U.S. Cl.** **426/72; 426/73; 426/74;
426/573; 426/580; 426/590; 426/593; 426/594;
426/596; 426/597; 426/601; 426/613; 426/654**(58) **Field of Search** **426/72, 73, 74,
426/573, 580, 590, 593, 594, 596, 597,
601, 613, 654**(56) **References Cited****U.S. PATENT DOCUMENTS**

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Hemm**(57) ABSTRACT**

A flavored instant or ready-to-drink beverage product that can deliver a rich, preferably frothy, foamy beverage with a clean, improved mouthfeel and thickness without sliminess, as well as a higher flavor impact at a lower dosage of solids is disclosed. These products comprise a water-insoluble component that includes microparticulate component, a fat/oil component, an emulsifier, a vitamin and mineral mix, and optionally, microcrystalline cellulose; a water-soluble component that includes a soluble beverage component, a thickener, and optionally, a buffer; a foam stabilizer; and optionally, acid carbonate/bicarbonate; a sweetener; milk solids; processing aids; and flavorants; and, optionally, and preferably in ready-to-drink formulations, up to 95% water. The ratio of water-soluble to water-insoluble components is about 3.3 or less (i.e., the ratio of water-insoluble to water-soluble (I/S) components is 0.30 or greater) and/or the level of water-insoluble components per unit volume of the product is at least about 0.019 g/cc. These products preferably include the combination of sugar and a high intensity sweetener to help reduce the level of solids in the beverage. This product also preferably contains a foaming creamer, a foam generating system, and a protein foam stabilizer to provide a foamy, frothy beverage.

23 Claims, No Drawings